

REMARKS

This Response is in reply to the Office Action dated November 17, 2004. Presently, claims 35-63 are pending. Applicant is appreciative of Examiner's comments regarding the allowability of claims 35-54. The remaining claims 55-63 stand rejected, but based upon the following comments, Applicant respectfully requests reconsideration of claims 55-63 and allowance of the application.

35 U.S.C. 102(b) Rejections

The present Office Action rejects claims 55-63 under 35 U.S.C. 102(b) as being anticipated by Grumstrup et al. Applicants respectfully traverse the rejection.

Independent claim 55, as amended, recites a method for detecting faults in a control loop for a pneumatically operated control valve including an I/P converter coupled to the control fluid valve assembly, and a processor for delivering an I/P drive signal to the I/P converter. Most significantly, the method comprises the step of monitoring the I/P drive signal and at least one operating parameter of the control loop *during normal operation of the control valve*, wherein a logic sub-routine subsequently generates a fault signal based on the I/P drive signal and the additional operating parameter.

That is, the present invention, as disclosed and originally claimed, does not contemplate disturbing the process with a diagnostic test signal to make a fault determination. As one of ordinary skill in the art appreciates, the fault determinations provided by Applicant's invention occur during "normal" operation of the control valve assembly through passive monitoring of the I/P drive signal and the feedback from at last one other sensor to derive an air mass flow estimation. One skilled in the art further appreciates that the novel use of air mass flow estimation, as disclosed, does not require actively driving a test signal

into the system to measure a fault condition. The diagnostic scheme is accomplished by monitoring the normal I/P drive signal.

Quite the opposite, Grumstrup et al. requires the generation of a predetermined diagnostic signal to induce a response based upon the diagnostic signal wherein fault may be detected. Applicants respectfully submit that this is a fundamental difference between Applicants' invention as claimed and the prior art. The teachings of Grumstrup et al. contemplate a diagnostics scheme that relies upon the generation of a predetermined diagnostic test signal. *See* col. 4, line 62 through col.5, line 50. No where in the teachings of Grumstrup et al. is there an express or inherent teaching of the monitoring of the I/P drive signal *during normal operation* for diagnostic purposes. Applicants suggest one of ordinary skill in the art can clearly distinguish Grumstrup et al. in that the diagnostics taught by Grumstrup et al. do not explicitly nor implicitly monitor the I/P drive signal in cooperation with at least one other operating parameter of the control loop *during normal operation of the control valve* to detect a fault within the control loop.

Under Section 2131, the MPEP states: "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir 1987). Applicants respectfully submit that the steps of monitoring the I/P drive signal and at least one other operating parameter, as claimed in present invention, is neither expressly nor inherently found in Grumstrup et al. and therefore cannot be anticipated by Grumstrup et al. Therefore, Applicants submit that independent claim 55 and its associated dependent claims 56-63 are patentably distinct from the cited reference.

CONCLUSION

Applicants respectfully submit that the remarks presented herein have placed the application in condition for allowance. As such, independent claim 55 and its dependent claims 56-63, should now be allowed. Reconsideration of the application is respectfully requested.

It is submitted that the present application is in good and proper form for allowance. A favorable action on the part of the Examiner is respectfully solicited. If, in the opinion of the Examiner a telephone conference would expedite prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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February 17, 2005